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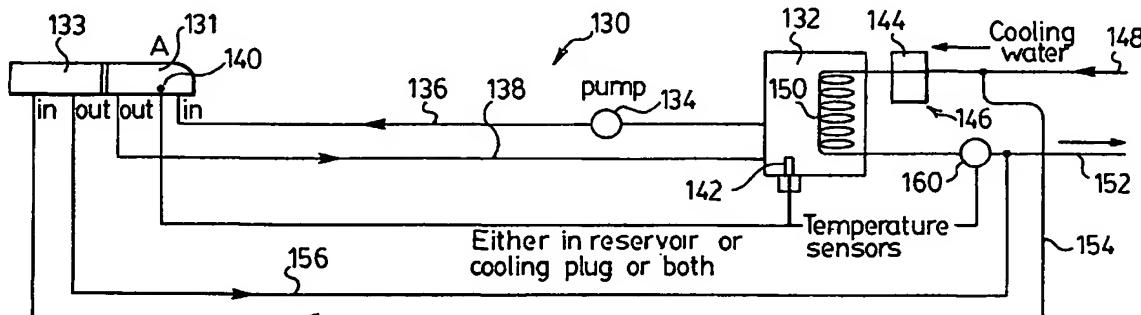
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(54) Title: PIPE MOLDING SYSTEM WITH VACUUM AND TEMPERATURE CONTROLS OF COOLING PLUGS



(57) Abstract: A pipe mold produces plastic pipe with an internal wall having a first wall portion and a second wall portion. The pipe mold includes a two stage cooling plug to assist in setting the pipe wall. The first cooling stage is controlled to remove heat from the pipe wall to partially set the plastic without excessive cooling. The partially set plastic pipe then passes over a second stage where less precision in the cooling of the pipe occurs. The partially set plastic is more tolerant and subject to less damage. Preferably both the first and second stages include separate temperature sensors and control arrangements for varying the cooling medium of each stage. In a preferred embodiment a cooling medium is circulated through a first stage at a temperature and at a flow rate to maintain the first stage within a narrow temperature range about the temperature of the cooling medium. The staged cooling plug allows better control at initial startups and with varying operating conditions.

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